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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,680	04/13/2006	Yasuhiro Watanabe	0707590043	4618
20277 7590 09/29/2009 MCDERMOTT WILL & EMERY LLP 600 13TH STREET, N.W. WASHINGTON, DC 20005-3096			EXAMINER ZHANG, YUANDA	
			ART UNIT 2828	PAPER NUMBER
			MAIL DATE 09/29/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,680

Applicant(s)

WATANABE ET AL.

Examiner

YUANDA ZHANG

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Response to Amendment

1. Amendment to claims 1, 5 & 6, cancellation of claim 4, and newly added claim 7 are acknowledged. In view of amended claim 1, the Applicant has argued that neither Komoto nor Matsuda discloses "wherein a lateral width of the submount along the front part of the submount is 400 μm or more but 700 μm or less." In particular, Matsuda discloses a substrate interpreted to be the submount having a dimension of 300 μm x 400 μm x 100 - 120 μm and the Applicant has argued that it's unclear whether the width of the substrate corresponds to 400 μm . The Examiner has found the argument persuasive and the previous rejection has been withdrawn.

Response to Arguments

2. Applicant's arguments with respect to claims 1-3 and 5-7 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe et al (US Patent 6,735,230 B1) in view of Abe (US PG Pub 2002/0021725 A1).
6. In re claim 1, with reference to figures 9a & 9b, Tanabe et al disclose a semiconductor laser device comprising: a semiconductor element (LD chip 30, col. 25 lines 29-32) formed on a substrate; and a submount (31, col. 25 lines 33-35), mounted on a front part thereof, the semiconductor laser element with a light-emitting face thereof directed forward and having first and second electrode pads (wiring films 33 & 34, col. 25 lines 36-37) connected to electrodes of the semiconductor laser element by being kept in contact therewith, wherein no photodetector is provided on the submount (see figure 9b), wherein the first and second electrode pads are formed to extend farther behind the semiconductor laser element (wiring films 33 & 34 extending behind LD chip 30, see figure 9b), and are wire-bonded (via gold wire 38) the semiconductor laser element, and wherein a lateral width of the submount along the front part of the submount is 400 μm or more but 700 μm or less (sub-mount 31 has a width of 0.5 mm or 500 μm since its dimension is 0.8 mm x 0.5 mm x 0.4 mm, length x width x thickness, col. 25 lines 33-35). Tanabe et al do not disclose a two-beam semiconductor element having first and second semiconductor laser elements that can be driven independently and that are formed integrally on a substrate. However, with reference to figure 7, Abe discloses a two-beam semiconductor element (monolithic laser diode 14a, paragraph

[0133]) having first and second semiconductor laser elements (LD1 & LD2, paragraph [0134]) that can be driven independently and that are formed integrally on a substrate (30, paragraph [0131]). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the semiconductor laser device of Tanabe et al with the two-beam semiconductor laser element as taught by Abe in order to obtain various output wavelengths.

7. In re claim 2, Tanabe et al disclose wherein the first and second electrode pads are wire-bonded at a rear end of the submount (see figure 9b).

8. In re claim 3, Tanabe et al disclose wherein a distance from the rear end of the semiconductor laser element to a position where the first and second electrode pads are wired-bonded is 300 μm or shorter (The Examiner notes that the dimension of LD chip is 0.25 mm x 0.25 mm x 0.1 mm, length x width x thickness, col. 24 lines 31-38, the dimension of the sub-mounted as disclosed previously is 0.8 mm x 0.5 mm x 0.4 mm, length x width x thickness, and the wire bonded positions are approximately at the mid point of the length of the submount as shown in figure 9b. Given the dimensions above, the distance from the rear of the semiconductor laser element to the wire bonded positions is approximately $0.8 \text{ mm} / 2 - 0.25 \text{ mm} = 0.4 \text{ mm} - 0.25 \text{ mm} = 0.15 \text{ mm}$ or 150 μm which is shorter than 300 μm).

9. In re claim 5, Tanabe et al disclose a metal frame (heat sink 40 which the sub-mounted is mounted on, col. 26 lines 9-14); wherein the submount is mounted directly on the frame, and no photodetector is directly mounted on the frame (no photodetector mounted on the heat sink, see figure 9a).

10. In re claim 6, Tanabe et al disclose wherein the semiconductor laser device is built as a three-terminal semiconductor laser device having only three terminals (44-46, col. 25 lines 65-67).

11. In re claim 7, Tanabe et al disclose three bonding wires, each bonded to a location behind the submount and to one of an electrode of the semiconductor element, the first electrode pad, and the second electrode pad (see figure 9b).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUANDA ZHANG whose telephone number is

(571)270-1439. The examiner can normally be reached on Monday-Friday, 9:00am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuanda Zhang/
Examiner, Art Unit 2828
09/23/09

/Minsun Harvey/
Supervisory Patent Examiner, Art Unit 2828